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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,707	09/09/2003	Ioan Dorin Ilea	31727-2019	8746

33721 7590 04/14/2005

TORYS LLP
79 WELLINGTON ST. WEST
SUITE 3000
TORONTO, ON M5K 1N2
CANADA

EXAMINER

BOSWELL, CHRISTOPHER J

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/657,707

Applicant(s)

ILEA ET AL.

Examiner

Christopher Boswell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/31/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

Applicant is advised that should claim 14 be found allowable, claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Objections

Claims 1, 14, 24, and 32 are objected to because of the following informalities: In claim 1, lines 12-13; claim 14, lines 10-11; claim 24, lines 10-11; and claim 32, lines 1-2 recite the limitation "a said latch", the examiner believes this is a typographical error and should be either -said latch-- or --the latch--. Appropriate correction is required.

Claims 4, 5, 11, 14, and 32 are objected to because of the following informalities: In claim 4, line 2; claim 5, line 2; claim 11, line 3; claim 14, line 11; and claim 32, line 3 recite the limitations "the worm wheel" or "the wheel", the examiner believes these limitations should be -the worm gear-- and --the gear--, respectively. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: Claim 10 depends from a canceled claim. To further prosecution, the examiner is examining claim 10 as if depended from claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the at least one resilient finger" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitation "the one of the first and second stops" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent Number 6,698,805 to Erices et al.

Erices et al. disclose a device for releasing a latch having a housing (1, 11, 13, and 22) having a recessed region (11) and a tubular mount (12') extending from the center of the

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recessed region, an electric motor (7) mounted in the housing, a worm (8) operatively coupled to the motor for driving rotation of the worm about an axis in a first rotational direction, a worm gear (gear on 12) in meshing engagement with the worm and rotatably mounted to the tubular mount (figure 1), and being mounted in the housing for rotation about an axis substantially orthogonal to the worm axis, a camshaft (12) mounted on the worm gear and having a rotation axis coincident with the gear axis, the camshaft having a distal end extending to the exterior of the housing, a cam (9) affixed at the exterior end of the camshaft, having a surface (figures 2 and 3) for engaging a latch (3 and 4) to move the latch from a closed position to a release position as the gear rotates in a first direction from a first position to a second position under control of the motor, as in claim 1, and where the work gear is biased against the rotation from the first position to the second position (column 3, lines 10-16), as in claim 2.

Erices et al. also disclose the camshaft depends from a center point of the cam (figure 1) so that the cam is mounted to the worm gear; the two are coaxial (figures 1 and 2), as in claim 15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 3-8, 10-14, and 20-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erices et al., as applied above to claims 1-2 and 15-16, in view of U.S. Patent Number 6,390,517 to Ehret.

Erices et al. disclose the invention substantially as claimed. Erices et al. disclose a latch release device having a housing (1, 11, 13, and 22), an electric motor (7) mounted in the housing, a worm (8) operatively coupled to the motor for driving rotation of the worm about an axis in a first rotational direction, a worm gear (gear on 12) in meshing engagement with the worm, and being mounted in the housing for rotation about an axis substantially orthogonal to the worm axis, a camshaft (12) mounted on the worm gear and having a rotation axis coincident with the gear axis, the camshaft having a distal end extending to the exterior of the housing, a cam (9) affixed at the exterior end of the camshaft, having a surface (figures 2 and 3) for engaging a latch (3 and 4) to move the latch from a closed position to a release position as the gear rotates in a first direction from a first position to a second position under control of the motor and where the work gear is biased against the rotation from the first position to the second position (column 3, lines 10-16), wherein the tubular mount includes an open end (12') facing towards the worm gear, and the worm gear includes a shaft (12) extending into the open end, and an outer rim spaced from the shaft by a gear wall (figure 1), as in claim 4. However, Erices et al. do not disclose the biasing of the worm gear is provided by a spring. Ehret teaches of biasing a gear for a latch release device being provided by a helical spring (36) connected between a gear (34) and a housing (46), where the worm gear has a catch (46) for retaining a first end of the spring, as in claim 21, where the catch has an overhanging portion (figure 1) operable to retain the spring during the assembly of the latch release device, as in claim 22, where a stop (42) in the housing

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retains the second end of the spring, as in claim 23 in the same field of endeavor for the purpose of rotating the gear in a direction against which the motor rotated the gear (column 1, lines 64-column 2, line 7). It would have been obvious to one with ordinary skill in the art at the time the invention was made to use a helical spring, located between the shaft and outer most edge of the gear of Erices et al. where a catch would be mounted on the worm gear to retain one end of the spring, and a stop would be placed on the housing to hold the other side of the spring, to bias the gear in order to rotate the gear in a direction opposite of what the motor rotated the gear, as in claims 3, 5, 14 and 21-24.

Erices et al. also disclose the housing having a first stop and a second stop unitarily molded therewith, and the gear includes a first stop and a second stop (column 8, lines 30-37), wherein when the gear is in the first position, the first stops are in mutual abutment to preclude rotation in the second direction, and when the gear is in the second position, the second stops are in mutual abutment to preclude rotation in the first direction, as in claims 6 and 27, further having an injection-molded closure plate (13), and the housing includes a hollow portion (14) and the housing and plate have opposing walls shaped to abut a housing of the motor when the hollow portion and the plate are secured together, and the plate further includes protrusions which extend into the housing interior to abut sides of the motor housing to preclude movement therepast (column 7, lines 36-41), as in claims 7 and 28, wherein the hollow portion includes an upstanding peripheral ridge (figure 1) unitarily molded therewith, and shaped to abut an inner surface of the plate, and the plate of the housing includes an upstanding peripheral ridge unitarily molded therewith and shaped to abut an inner surface of the housing, to protect against the egress

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of water into the interior of the housing, and wherein the ridges are located to provide a water flow path around the outer periphery thereof (column 3, lines 41-52), as in claims 8 and 29.

Erices et al. further disclose the housing plate includes an aperture (figure 1) in communication with the central aperture of the gear, to permit passage of the camshaft therethrough, and wherein the distal end of the camshaft includes at least one resilient finger (end of shaft 12) received through the communicating apertures and having a surface in abutting contact with an opposing surface of the gear to preclude axial withdrawal of the camshaft from the wheel aperture (column 11, lines 30-32), as in claims 10 and 31, and where the cam surface for engaging a latch is oriented to move the latch in a direction having a vectorial component (figures 2 and 3) non-parallel to the direction of rotation of the gear shaft as the gear rotates in the first direction, as in claims 11 and 32, further comprising electrically conductive contacts embedded into the housing as the housing is molded (column 7, lines 47-50), in electrical contact with the motor, and extending to the exterior of the housing for connection to an electric power supply, as in claims 12 and 33, as well as the housing and the closure plate having a plurality of holes (column 9, lines 41-43) in communication with each other and located to permit simultaneous fastening of the housing and closure plate together and fastening of the device adjacent the latch with the cam in operable proximity thereto, as in claims 13 and 34.

Erices et al. additionally disclose a cross-section of the camshaft and the aperture are noncircular (figure 1), the cross-sections of the camshaft and the aperture orienting the cam for operation between the open and close positions, as in claim 20.

Erices et al. additionally disclose the worm gear having a shaft (12) rotatably mounted to the housing, and an outer rim (figure 1) spaced from the shaft, the rim bearing teeth in the

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meshing engagement with the worm, as in claim 25, where the housing having an injection-molded plastic tubular mount (12') extending into the housing interior, with the gear being rotatably mounted thereon, as in claim 26 as well as the tubular mount having an open end (12') and the gear is rotatably mounted therein by means of a shaft (12) extending from the gear that is received in the open end, the gear including a rim spaced from the shaft, and the spring is located between the rim and the tubular mount of the housing, as in claim 30.

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erices et al., as applied above to claims 1-2 and 15-16, in view of U.S. Patent Number 6,779,942 to Lipp et al.

Erices et al. disclose the invention substantially as claimed. However, Erices et al. do not disclose the manner to which the camshaft is attached to the worm gear. Lipp et al. teach of a control element (14) with a rectangular shaped aperture (20) and a control shaft (16) having a plurality of resilient fingers (26) including a tab (figure 6) that extends radially out from the axis of the control shaft, and the tab provides the surface in abutting contact with the surface of the control element that faces away from the control shaft (figure 6), as in claim 16, wherein the plurality of resilient finger includes at least two resilient fingers (figure 4) spaced apart from each other on opposing sides of the central axis of the control shaft (figure 4), as in claim 17, with the tabs having a chamfer surface (54) to facilitate entry of the resilient finger into the aperture, as in claim 18, where the tabs squeeze together when entering the aperture, and then return to their spaced position outside the aperture so that the tabs provide the surface in abutting contact with the surface of the gear that faces away from the cam (figure 6), as in claim 19 in the

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analogous art of torque transmission means for the purpose of providing a method of securing a control element to a control shaft which allows for reliable attachment of a control element to a control shaft irrespective of typical manufacturing variations (column 1, lines 54-60). It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate a plurality of resilient fingers on the end of the cam shaft, where the fingers will have tabs to engage an interior aperture of the cam of Erices et al. as taught by Lipp et al. in order to provide a connection means between the worm gear to a cam shaft which allows for reliable attachment of a worm gear to the camshaft irrespective of typical manufacturing variations.

Response to Arguments

Applicant's arguments filed January 31, 2005 have been fully considered but they are not persuasive. Regarding the argument that Erices et al. does not recite a housing having a recessed region and a tubular mount that extends from the center of the recessed region, in page 11, lines 15-20; and page 12, lines 9-23 of the remarks, the examiner respectfully disagrees. As shown in figure 1, housing 11 does in deed have a recessed portion (where the worm drive resides), and where the tubular mount 12' resides over the recessed area and extends from the center of the region radially outward.

Regarding the argument, page 14, lines 5-25 of the remarks, that there is no motivation within Erices et al. to bias the gear against rotation in either direction, the applicant is correct, however, the question is whether there is something in the prior art as a whole to suggest the desirability of making the combination (*In re Beattie*, 974 F.2d 1309, 1311-12, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting *Lindemann Maschinenfabrik GMBH v. American Hoist &*

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Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)) (emphasis added)), where Ehret et al. suggests the desirability of having a gear being biased against the rotation of the motor and the gear.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Boswell whose telephone number is (571) 272-7054. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Daniel P. Stodola". The signature is fluid and cursive, with a large initial 'D'.

CJB *CB*
April 8, 2005

DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600